

wherein said deployment tool is configured to place the anastomosis device at least partly into the opening and deploys the anastomosis device to the deployed state, and said sheath is removed from the opening outside of the graft vessel.

35. (New) The device of Claim 34, wherein said cutting element comprises a conical element at said distal end of said sheath.

36. (New) The device of Claim 34, wherein said sheath comprises:
a plurality of spaced-apart axial members;
a first circumferential member connected to said axial members; and
a second circumferential member connected to and movable along each of said axial members.

37. (New) The device of Claim 36, wherein said second circumferential member comprises a plurality of openings therethrough, and wherein each of said axial members passes through one of said openings.

38. (New) The device of Claim 36, wherein said first circumferential member is fixed to each of said axial members.

39. (New) The device of Claim 36, wherein each of said axial members includes a tip, wherein said cutting element comprises said tips of said axial members.

40. (New) The device of Claim 34, wherein said cutting element comprises a plurality of cutting edges.

41. (New) The device of Claim 40, wherein said plurality of cutting edges make a plurality of cuts in the wall of the target vessel adjacent to the opening.

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42. (New) The device of Claim 34, wherein said cutting element is sized to make the opening smaller than the diameter of the anastomosis device in the deployed state.

43. (New) A device for piercing the wall of a target vessel, comprising:
a tubular sheath having an edge at its distal end; and
a cutting element slidable within said tubular sheath;
wherein said cutting element is inserted through the wall of the target vessel
and retracted to compress the wall of the target vessel against said edge, wherein a portion
of the wall of the target vessel is removed.

44. (New) The device of Claim 43, wherein said cutting element comprises:
a tapered tip;
an anvil surface behind said tapered tip; and
a shaft extending from said anvil surface.

45. (New) The device of Claim 43, wherein said edge is substantially circumferential.

46. (New) The device of Claim 43, wherein said cutting element comprises at least two pieces.

47. (New) The device of Claim 43, further comprising an elongated member connected to said cutting element.

48. (New) The device of Claim 47, wherein said elongated member is a spring.

49. (New) The device of Claim 47, wherein said elongated member is a cable.

50. (New) The device of Claim 43, wherein a storage position is defined relative to said tubular sheath, and wherein said piercing device is movable to said storage position.

51. (New) The device of Claim 43, wherein said cutting element further comprises a pin extending therefrom, and wherein said tubular sheath comprises a slot therein, said pin movable within said slot.

52. (New) The device of Claim 51, further comprising a stop at a proximal end of said slot.

53. (New) The device of Claim 51, wherein a storage position is defined relative to said tubular sheath, and wherein said slot is defined in said tubular sheath to direct said piercing device into said storage position.

54. (New) The device of Claim 51, wherein said cutting element further comprises an inclined surface on a proximal end.

55. (New) A method for performing an anastomosis procedure between a graft vessel and a target vessel using an anastomosis device attached to the graft vessel, comprising:

creating an opening in the target vessel with a cutting device;
inserting the anastomosis device at least partially into the target vessel;
deploying the anastomosis device to attach the graft vessel to the target vessel; and

withdrawing at least a portion of the cutting device away from and outside of the graft vessel.

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56. (New) The method of Claim 55, wherein said cutting device and said anastomosis device are substantially coaxial during at least a portion of the procedure.

57. (New) A device for forming an opening in the wall of a target vessel and delivering an anastomosis device to the opening, the device comprising:

a deployment tool;

a sheath connected to said deployment tool, said sheath including a cutting element at a distal end, said sheath expandable at the distal end;

wherein said cutting element penetrates the target vessel and said distal end of said sheath engages the wall of the target vessel and expands to allow the anastomosis device to be introduced through said sheath.

58. (New) A device for piercing the wall of a target vessel, comprising:

a tubular sheath; and

a cutting element slidable within said tubular sheath, wherein said cutting element cooperates with said tubular sheath to remove a portion of the wall of the target vessel.

59. (New) The device of Claim 58, wherein said cutting element traps and retains the portion of the wall of the target vessel.

60. (New) The device of Claim 58, wherein said tubular sheath comprises a lumen, and wherein said cutting element moves the portion of the wall of the target vessel out of said lumen.

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